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~~contd~~ WHAT IS CLAIMED IS:

1. A camera for getting information upon three-dimensional shape, comprising:

an image taking device for taking an image of an object within a region to be photographed;

5 a projector for projecting a pattern light on the region; and

10 a monitor for displaying the image of the object which the image taking device takes, in which the monitor has a memory for storing the image of the object the image taking device takes when the projector does not project the pattern light on the region,

15 wherein the image taking device takes a projection pattern which is formed on the object within the region by the pattern light that the projector projects, and

20 wherein the monitor displays the image, stored in the memory, of the object, instead of the image of the object the image taking device takes with the projector projecting the pattern light on the region.

2. The camera as claimed in claim 1, wherein the pattern light is not a uniform light and has a distribution of illuminance, and

25 wherein the projection pattern which is formed on the object within the region by the pattern light comprises

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at least one stripe.

3. The camera as claimed in claim 1, wherein the pattern light comprises a colored light, and

wherein the projection pattern which is formed on

5 the object within the region by the pattern light comprises a colored part.

4. A camera which is able to get information upon a three-dimensional shape of an object, comprising:

10 a projector for projecting a light having a predetermined pattern on the object;

a photographing part for photographing the object;

15 a memory for storing an image of the object which the photographing part photographs, in a state in which the projector does not project the light having the predetermined pattern on the object; and

20 a display part for displaying the image, stored in the memory, of the object, instead of the image of the object the photographing part photographs while the projector projects the light having the predetermined pattern on the object.

25 5. The camera as claimed in claim 4, wherein the display part displays the image of the object the photographing part photographs while the projector does not project the light having the predetermined pattern on the

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object.

- ~~Sub A)~~ 6. The camera as claimed in claim 4, wherein the light having the predetermined pattern is not a uniform light and has a distribution of illuminance, and
5 wherein a projection pattern which is formed on the object by the light having the predetermined pattern comprises at least one stripe.
7. The camera as claimed in claim 4, wherein the light having the predetermined pattern comprises a colored
10 light, and
wherein a projection pattern which is formed on the object by the light having the predetermined pattern comprises a colored part.
8. A camera which is able to get information upon a
15 three-dimensional shape of an object, comprising:
an image taking part for successively taking an image of the object;
a first memory for successively and temporarily storing the image of the object the image taking part
20 takes;
a display part for renewing and displaying the image of the object successively; and
a projector for projecting a light with a predetermined pattern on the object,
25 wherein the display part displays the image of

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the object stored in the first memory prior to a projection of the light with the predetermined pattern by the projector, instead of the image of the object the image taking part takes, when the image taking part takes the image of the object in a state in which the projector projects the light with the predetermined pattern.

9. The camera as claimed in claim 8, which further comprises a second memory for storing the image of the object the image taking part takes, wherein the second memory outputs the image of the object, thus stored, to the first memory successively.

10. The camera as claimed in claim 9, wherein the second memory stores the image of the object the image taking part takes, and the image of the object stored in the second memory is prohibited from being outputted to the first memory, when the image taking part takes the image of the object in the state in which the projector projects the light with the predetermined pattern.

11. The camera as claimed in claim 8, wherein the display part is prohibited from renewing the image of the object when the image taking part takes the image of the object in a state in which the projector projects the light with the predetermined pattern.

12. The camera as claimed in claim 8, wherein the light with the predetermined pattern is not a uniform light

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and has a distribution of illuminance, and

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wherein a projection pattern which is formed on
the object by the light with the predetermined pattern
comprises at least one stripe.

5 13. The camera as claimed in claim 8, wherein the
light with the predetermined pattern comprises a colored
light, and

10 wherein a projection pattern which is formed on
the object by the light with the predetermined pattern
comprises a colored part.

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